CLAIMS

We claim:

5   1.   A method of controlling access to a language learning computer facility, the method comprising:

permitting a user to interact with the computer facility through a computer node of a network, the user interaction comprising language learning responses submitted to the computer facility through the computer node;

10   performing a user authentication process to determine if the permitted user interaction is authorized; and

determining whether the permitted user interaction should be continued, if the user is determined not to be authorized;

wherein the user authentication process is performed with user

15   authentication information that is obtained by the computer facility during the permitted user interaction and also with user authentication information extracted from the user's language learning responses.

2.   A method as defined in claim 1, wherein the permitted user

20   interaction includes receiving user speaker verification information that is obtained from the user in response to language learning requests from the computer facility and further including:

analyzing the speaker verification information to verify that the user is a recognized speaker.

25

3.   A method as defined in claim 2, wherein the determination of whether user interaction should be continued is performed a predetermined time

after the user begins interaction with the computer facility, and the predetermined time comprises a predetermined number of computer facility requests.

4. A method as defined in claim 2, wherein the system permits continued access in response to a match between the user speaker verification information and reference speaker verification information for the user in a database of the computer facility.

5. A method as defined in claim 4, wherein the user authentication process comprises verifying that speaker verification information of the user is sufficiently similar to reference speaker verification information from an identified user in the database so as to conclude that the user is the identified user.

6. A method as defined in claim 5, wherein the user speaker verification information is obtained from the user as a result of speaking a predetermined phrase at the computer node to thereby provide a text dependent verification.

7. A method as defined in claim 1, wherein the user authentication information comprises student instruction progress information obtained during the language learning user interaction.

8. A method as defined in claim 7, the method further including analyzing the student instruction progress information to verify that the user is a student who has made progress through an instruction plan of the computer facility and to determine if one or more user inputs that identify the user's progress through the instruction plan indicate that the user's progress is sufficiently different from the student's progress to conclude that the user is someone other than the student, and therefore is not authorized.

28

9.   A method as defined in claim 1, wherein the user authentication information comprises student instruction performance information obtained from the user during the language learning user interaction.

5

10.   A method as defined in claim 9, the method further including analyzing the student instruction performance information to determine if the user is identified as a student who has recorded performance data while making progress through an instruction plan of the computer facility, and to determine if

10   one or more user inputs that identify the user's performance through the instruction plan indicate that the user's performance is sufficiently different from the student's performance to conclude that the user is someone other than the student, and therefore is not authorized.

15   11.   A method as defined in claim 9, wherein the computer facility provides spoken language learning instruction during the user interaction and the performance information comprises user speech input information obtained from the user during the user interaction with the computer facility.

20   12.   A method as defined in claim 1, wherein the user authentication process comprises:

requesting a user identification code input;

receiving identification code generated by a code generator that is attached to a microphone that communicates with the user computer and through which the

25   user provides speech input.

13.   A method as defined in claim 1, wherein performing the user authentication process comprises receiving multiple types of authentication

information and determining user authorization based on criteria relating to information that includes at least two from among: user speaker verification information, user progress information, user performance information, or a user identification code.

14.   A method as defined in claim 13, wherein the received authentication information is analyzed and compared to corresponding information from a student who has previously provided voiceprint information, and made progress through an instruction plan of the computer facility, thereby generating performance data collected by the system while the student was making progress through an instruction plan of the computer facility; wherein the user is determined to be authorized if more than one of the user inputs comprising user voiceprint information, user progress, and user performance are sufficiently similar to the student's previously provided user inputs to conclude that the user is the student.

15.   A method as defined in claim 1, wherein the user computer node comprises a client of the computer facility, the user responses to language learning requests from the computer facility comprise user speech input, and the user speaker verification information received by the computer facility comprises parametric data processed at the user computer node from the speech input.

16.   A method of accessing language learning data at a network computer facility, the method comprising:

detecting that a user at a node of the network is utilizing a microphone to provide speech input at a computer node of the network;

providing the user with limited access to a predetermined number of language learning data modules at the computer facility;

receiving a selection by the user for additional data modules that are available and are associated with a payment amount for access;

providing the user with access to the selected data modules in response to receipt of the associated payment amount.

5   17.   A method of selling controlled network access from a local computer to a remote computer, the method comprising:

selling an item that is used by a local computer user in responding to a program of spoken language instruction comprising a plurality of data modules,

10   wherein the item is associated with an access permit to allow the user to select a predetermined number of the spoken language instruction data modules;

receiving a user request from the local computer for access to a selection of the predetermined number of data modules of the spoken language instruction program and granting access to the user-selected data modules.

15

18.   A method as defined in claim 17, further including:

receiving a user request from the local computer for access to additional modules of the spoken language instruction, wherein the user request includes a payment authorization for the additional modules; and

20   permitting the requesting user to have access to the paid-for additional modules of the spoken language instruction program.

19.   A method as defined in claim 17, wherein granting access to the selected data modules includes detecting a code received from the local computer

25   that identifies a unique user account.

20.   A method as defined in claim 19, wherein the sold item comprises a microphone apparatus that communicates with the local computer, and detecting a

code comprises receiving a code generated by a code generator of the microphone apparatus that identifies the unique user account.

21.   A method of selling a program of spoken language skills instruction modules at a remote computer that is accessed from a local computer, the method comprising:

selling a microphone apparatus and permitting the local computer to access a predetermined number of program modules of the spoken language skills instruction at the remote computer, wherein the predetermined number is associated with the sold microphone apparatus;

receiving a user request from the local computer for access to a selection of the predetermined number of data modules of the spoken language instruction program and granting access to the user-selected data modules;

receiving a user request from the local computer for access to additional program modules of the spoken language instruction program, wherein the user request includes a payment authorization for the additional program modules; and

permitting the requesting user to have access to the paid-for additional modules of the spoken language instruction program.

22.   A microphone apparatus for use with a user computer, the microphone apparatus comprising:

a microphone transducer that converts speech input to an electrical signal and provides the electrical signal to the user computer over a channel;

a code generator that produces a code output and communicates with the user computer over the channel.

23.   A microphone apparatus as defined in claim 22, wherein the code generator includes a modem transmitter.

24.   A computer apparatus at a server node of a network, controlling access to a computer facility of the network, the computer apparatus comprising:

a network communication interface that permits communication with a user at a client node of the network; and

5   a Speaker Recognition processor that permits the user to interact with the computer facility through a computer node of the network, wherein the user interaction comprises language learning responses submitted to the computer facility through the computer node, further that the Speaker Recognition processor performs a user authentication process to determine if the permitted user

10   interaction is authorized and determines whether the permitted user interaction should be continued, if the user is determined not to be authorized; and wherein the user authentication process is performed with user authentication information that is obtained by the computer facility during the permitted user interaction and also with user authentication information that is extracted from the user's language

15   learning responses.

25.   A computer apparatus as defined in claim 24, wherein the Speaker Recognition processor receives speaker verification information from the user in response to language learning requests and analyzes the speaker verification

20   information to verify that the user is a recognized speaker.

26.   A computer apparatus as defined in claim 25, wherein the Speaker Recognition processor performs the determination of whether user interaction should be continued at a predetermined time after the user begins interaction with

25   the computer facility, and wherein the predetermined time comprises a predetermined number of computer facility requests.

33

27. A computer apparatus as defined in claim 25, wherein the system permits continued access in response to a match between the user speaker verification information and reference speaker verification information for the user in a database of the computer facility.

28. A computer apparatus as defined in claim 27, wherein the user authentication process comprises verifying that speaker verification information of the user is sufficiently similar to reference speaker verification information from an identified user in the database so as to conclude that the user is the identified user.

29. A computer apparatus as defined in claim 28, wherein the user speaker verification information is obtained from the user as a result of speaking a predetermined phrase at the computer node to thereby provide a text dependent verification.

30. A computer apparatus as defined in claim 24, wherein the user authentication information comprises student instruction progress information obtained during the language learning user interaction.

31. A computer apparatus as defined in claim 30, wherein the Speaker Recognition processor analyzes the student instruction progress information to verify that the user is a student who has made progress through an instruction plan of the computer facility and to determine if one or more user inputs that identify the user's progress through the instruction plan indicate that the user's progress is sufficiently different from the student's progress to conclude that the user is someone other than the student, and therefore is not authorized.

32. A computer apparatus as defined in claim 24, wherein the user authentication information comprises student instruction performance information obtained from the user during the language learning user interaction.

5   33. A computer apparatus as defined in claim 32, wherein the Speaker Recognition processor analyzes the student instruction performance information to determine if the user is identified as a student who has recorded performance data while making progress through an instruction plan of the computer facility, and to determine if one or more user inputs that identify the user's performance through

10   the instruction plan indicate that the user's performance is sufficiently different from the student's performance to conclude that the user is someone other than the student, and therefore is not authorized.

34. A computer apparatus as defined in claim 32, wherein the computer

15   facility provides spoken language learning instruction during the user interaction and the performance information comprises user speech input information obtained from the user during the user interaction with the computer facility.

35. A computer apparatus as defined in claim 24, wherein the Speaker

20   Recognition processor performs the user authentication process by requesting a user identification code input and receiving identification code generated by a code generator that is attached to a microphone that communicates with the user computer and through which the user provides speech input.

25   36. A computer apparatus as defined in claim 24, wherein the Speaker Recognition processor performs the user authentication process by receiving multiple types of authentication information and determining user authorization based on criteria relating to information that includes at least two from among: user

speaker verification information, user progress information, user performance information, or a user identification code.

37.   A computer apparatus as defined in claim 36, wherein the received authentication information is analyzed and compared to corresponding information from a student who has previously provided voiceprint information, and made progress through an instruction plan of the computer facility, thereby generating performance data collected by the system while the student was making progress through an instruction plan of the computer facility; wherein the user is determined to be authorized if more than one of the user inputs comprising user voiceprint information, user progress, and user performance are sufficiently similar to the student's previously provided user inputs to conclude that the user is the student.

38.   A computer apparatus as defined in claim 25, wherein the user computer node comprises a client of the computer facility, the user responses to language learning requests from the computer facility comprise user speech input, and the user speaker verification information received by the computer facility comprises parametric data processed at the user computer node from the speech input.

20